BBC tv TIME-LIFE BOOKS 25p
No. 79

THE BRITISH EMPIRE

THE "ALL-RED" ROUTES
Steamships cables and aircraft bind the Empire

Australia & New Zealand 70c South Africa 70c Canada 95c

THE BRITISH EMPIRE

BBC tv TIME-LIFE BOOKS 25p
No. 79

Editor John Man
Deputy Editor Christopher Farman
Picture Editor Pamela Marke
Design Consultant Louis Klein
Staff Writer Susan Hillaby
Picture Researchers Kerry Arnold
Susan Stratton
Art Director Graham Davis
Art Assistants Laurence Bradbury
Joyce Mason
Editorial Assistant Vanessa Kramer
Staff Photographer Eileen Tweedy
Partwork Director Kurt Medina
Sales Director George Gillespie
Consultants D.K. Fieldhouse, Lecturer in Commonwealth History and Fellow of Nuffield College, Oxford
A.F. Madden, Reader in Commonwealth Government and Fellow of Nuffield College, Oxford

TREVOR REESE, who wrote the main text of this issue, received his doctorate in history from the University of Leeds. He was a university lecturer in Australia for six years and is now Reader in History at the Institute of Commonwealth Studies, University of London. His books include *Colonial Georgia*, *Australia in the Twentieth Century* and *The History of the Royal Commonwealth Society*.

Subscriptions – These are available at £6·50 for six months, inclusive of postage and packing. For addresses outside of the United Kingdom, the rate is £8·75, inclusive of surface postage and packing.
Back Numbers – These are available at your local newsagent or may be secured by post for the inclusive price of 25p per issue. Be sure and specify which issue(s) you desire.
Orders for both subscriptions and back numbers should be sent, with remittance, to *The British Empire*, BBC Publications, 35 Marylebone High St., London W1M 4AA.
Binders – These may be ordered at £1·15 including V.A.T. for the Standard edition and £1·92 including V.A.T. for the Deluxe edition, either individually or on subscription. Orders, with remittance, should be sent to *British Empire Binders*, BBC Publications, P.O. Box No. 126, London SE1 5JZ.
NOTE: All above payments should be crossed cheque/P.O.

ACKNOWLEDGEMENTS: (*t*=top; *b*=bottom; *l*=left; *r*=right; *c*=centre). Cover and page 2212: B.O.A.C. Inside back cover: The Parker Gallery, London. Collection of H. Beresford-Bourke 2190*tl*, *tr*, 2191*t*, *b*; B.O.A.C. 2210*l*, 2210/11*b*; Trustees of the British Museum 2190*tc*, 2194; Cable & Wireless Ltd. 2204*t*, *c*, 2205*br*; by courtesy of the British Post Office 2186/7, 2196*l*, 2198/9, 2200*tl*, *bl*, 2200/1*b*, 2201*t*, 2204/5*b*, 2205*tr*, 2209, 2210/11*t*, 2211*t*; India Office Library and Records 2200/1*t*; *Illustrated London News* 2204*bl*, 2205*tl*; Imperial War Museum 2206/7, 2208, 2208/9; John Johnson Collection, New Bodleian Library, Oxford 2195*t*; The Mansell Collection 2201*br*; Marconi's Wireless Telegraph Co. Ltd. 2206*l*, 2211*b*; from the collection of Mr. and Mrs. Paul Mellon 2190*b*; National Maritime Museum, London 2197, 2202; from the R.M. Phillips Collection, National Postal Museum 2192, 2193*t*; reproduced by courtesy of the National Postal Museum, London 2193*c*, *b*; Radio Times Hulton Picture Library 2195*b*. PHOTOGRAPHERS: Derek Balmer 2189; R.B. Fleming & Co. 2194, 2200/1*t*; Eileen Tweedy 2190*tl*, *tr*, 2191*t*, *b*, 2192/3, 2195*t*, 2197, 2202, inside back cover.

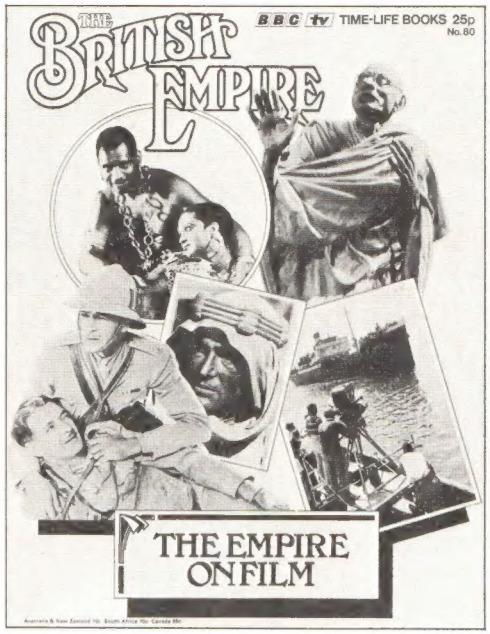
© 1973. Time-Life International (Nederland) B.V.

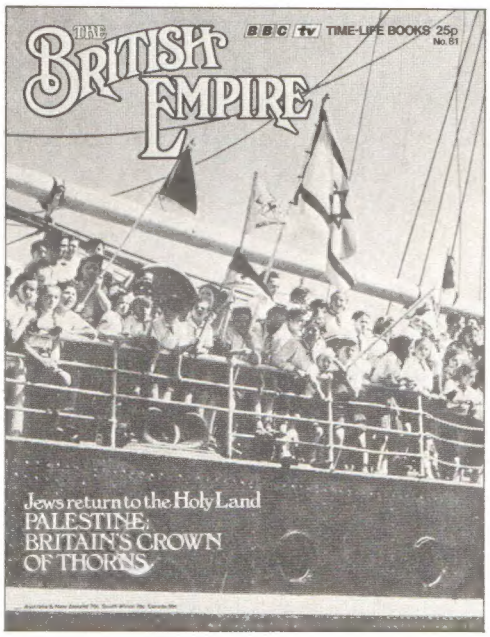
Reproduction in whole or in part without written permission is prohibited.

Published by Time-Life International (Nederland) B.V. in co-operation with the British Broadcasting Corporation.

Distributed in the U.K. by Time-Life International Ltd. and BBC Publications.

Printed in England by Jarrold and Sons Ltd. Norwich.





CONTENTS

2185. The All-Red Routes
Britain led the world throughout the 19th Century in the development of post and telegraph services. The "All-Red" routes spread out from London, criss-crossing the Empire and reducing the barriers of time and space between the colonies and the mother-country.

2189. Picture Essay: A Postal Service for the People
A popular and efficient postal service develops in Britain and grows to embrace the Empire.

2202. From the Ocean Depths to the Clouds
Submarine telegraph cables revolutionize imperial communications, but within two generations wireless and the aeroplane have an even more drastic impact.

Cover: An Imperial Airways flying boat resting on the Thames at Westminster in the summer of 1928 gives Londoners a sense of closeness to the Empire.

THE ALL-RED ROUTES

By the end of the 19th Century, Britain was linked to her colonies by the world's most efficient postal and telegraph system. British mail-boat routes and cable lines criss-crossed the globe like so many tentacles – helping accomplish the increasingly difficult task of ruling so much territory so far away. Until the mid-19th Century, letters alone had carried Whitehall's orders overseas together with the news and comfort from home. First, packet-boats bore the mail slowly under sail. By the 1850s, steamboats had lopped a third off the five-month trip to Australia. Everywhere, postal services were improved – aided by better roads and the expanding railway network. By the end of the century, the telegraph had brought a new dimension of speed. But a letter from England could still take months to reach a distant destination and the post remained limited until the arrival of air mail in the 1920s

By Trevor Reese

The effective defence, government and development of the British Empire, which was expanding rapidly in the 19th Century, demanded quick and reliable communications between London and the colonies. The further away a territory was from Whitehall, the longer it took for its news to reach the British government and for a decision or instructions to be returned to the local administration. Some territories were so distant as to be almost unreal to most Englishmen.

Even the facile pen of Charles Lamb found difficulty in 1822 in bridging the gap between himself and his Australian correspondent in New South Wales: "The weary world of waters between us oppresses the imagination," he lamented. "It is difficult to conceive how a scrawl of mine should ever stretch across it. It is a sort of presumption to expect that one's thoughts should live so far."

In the early years of the 19th Century mail for India, the Straits Settlements of Singapore, Malacca and Penang, and New South Wales was carried in sailing-ships round the Cape of Good Hope; it took up to six months to reach Calcutta and sometimes eight months to reach Australia. As much as two years might elapse between the dispatch of a communication by the East India Company's court of directors in London and the receipt of a reply from Calcutta. However, tremendous changes in transport and communication were coming. These not only brought the mother-country and the Empire closer together but made Britain the nerve-centre of the world.

The first major change in the transport of passengers and mail came with the replacement of sailing-ships by steam-driven vessels, which were quicker and more reliable. As early as the 1820s they proved themselves on the service across the Irish Sea. In the United States the steamboat was already a popular means of travel between coastal ports and along inland waterways, such as the Mississippi. By 1838, steamships were venturing across the Atlantic to compete with the sailing ships which shuttled between Liverpool and New York. The sailing ships were regarded by many people as hazardous in stormy weather. Samuel Cunard, a leading advocate of steam-power, condemned them as "coffins."

Cunard, a Nova Scotian shipowner and businessman, reached an agreement with the British Admiralty in 1839 to carry mail between Liverpool, Halifax (Nova Scotia) and Boston. A regular service began in July, 1840, when the *Britannia* left England with Cunard himself among the passengers. It reached Halifax in 13 days and Boston in 14 days. During the next decade the Cunard Line sprouted branch services to Bermuda, Newfoundland and the West Indies and at the same time acquired a reputation for safety, reliability and regularity.

By a certain amount of good luck, by insisting that white, green and red identification lights be displayed, by the use, in foggy weather, of a tin horn, and later a steam whistle, Cunard avoided the losses at sea that afflicted the fortunes of potential rivals. The Cunard service gave Nova Scotia the best postal service with the mother-country of any British colony in the 1840s. By contrast, the postal services of the rest of Canada were probably inferior at that time to those of other British colonies, including Australia. The Canadians could not be expected to be content for long with an irregular mail service along a land route either from Halifax to Quebec or by way of the U.S.

In the 1850s they established their own steam mail line. The Canadian government requested tenders for a steamship service and accepted the offer of Hugh Allan, a Glaswegian. He had emigrated to Canada a quarter of a century before and became an increasingly powerful figure in Canadian transport and communications. The Montreal Ocean Steamship Company (later the Allan Line until its steamships were acquired by the Canadian Pacific Ocean Steamship Services Company in 1915) commenced mail services in 1856, using Montreal as its North American terminus, and Liverpool and Glasgow as its ports of call in Britain.

British postal services in the Western Hemisphere were extended by the Royal Mail Steam Packet Company in the Caribbean, though it was criticized at times for slowness and frequent delays. British interest also stretched to South America, and paddle-steamers of the Pacific Steam Navigation Company worked the Pacific coast from Panama down as far as Val-

The crew of the packet ship *Lady Hobart* abandon

ship after a collision with an iceberg on June 28, 1803, an incident demonstrating the perils and unreliability of the Atlantic mail run.

paraiso, over half way to Cape Horn.

The major challenge to the imperial communications system lay east of Suez, where, in the first half of the 19th Century, the East India Company remained the dominant, and not particularly progressive, presence. It was not until the 1830s that a significant number of the company's officials, notably the Governor-General, Sir William Bentinck, were convinced of the inevitability and advantages of improved communications.

Previously, the company was wary of schemes whose implementation would mean heavy expense and might bring the population of India into more intimate contact with European standards and institutions than was healthy for imperial authority. But the passage to India was a prolonged affair by the all-sea route round Africa; and the advantages of halving the distance by cutting overland across Egypt were increasingly propagated, especially by Europeans in India.

Thomas Waghorn, who had served in the Royal Navy and joined the Bengal Marine, was the most energetic proponent of a postal service by way of the Red Sea – which gave direct access to the Indian Ocean. He attempted to publicize the virtues of an overland route across Egypt by travelling it himself. Eventually, the East India Company succumbed to the growing enthusiasm for this route; and in 1837 Bentinck chaired a House of Commons committee charged with inquiring into "the best means of establishing a communication by steam with India by way of the Red Sea."

The idea of an overland route to India was given a boost during the 1830s by a number of vessels which crossed the Indian Ocean from Bombay to the Port of Suez, where, in the early days, according to the traveller Edward Robinson, there was "not a garden, not a tree, not a trace of verdure, not a drop of fresh water." From there mail and passengers were conveyed across the desert to the Nile and the port of Alexandria. It was this part of the journey which gave the term "overland" to the whole operation. From Alexandria passengers continued by sea through the Mediterranean to England. The Mediterranean part of the trip was normally a pleasure for those engaged in it, but the steamers on the Indian Ocean side were uncomfortable and unhygienic. Miss Emma Roberts, who survived the trip in 1839 by only a few weeks, recorded that the "rooms were hot and smelly, and the servants lazy and indolent. Food was served in the common saloon, which served the purpose of toilet room and lounge for both sexes."

The overland route dramatically cut both the distance between Bombay and London and the time spent covering it. The passage was further improved after 1839 by the occupation of Aden, which was developed into a good port of call. In that year, also, an Anglo-French convention provided for "the conveyance through France of the correspondence of the East Indies with England, and vice versa." And the East India Company's court of directors produced a list of regulations establishing a monthly dispatch of mails in both directions along the overland route.

The sea-going part of the route to India benefited from the contract made by the Post Office in 1840 with the Peninsular and Oriental Steam Navigation Company for a service between England and Alexandria by way of Gibraltar and Malta. The company was required to operate vessels of at least 400 horsepower on a monthly service designed to reach Alexandria within 15 days of departing Southampton. At the end of the year the company received a royal charter of incorporation subject to its opening "an improved steam communication with India throughout, from England, within two years from the date of the charter." Soon P. & O. was carrying goods, passengers and mails across the Indian Ocean to Ceylon, Madras, Calcutta, and eastwards to Singapore and Hong Kong. The mail service to Bombay, however, remained the responsibility of the East India Company until 1854.

During the 1850s P. & O. succeeded in improving the land passage from Alexandria to Suez. In addition, Egypt's ruler, Mehemet Ali, agreed to clear and mend the desert track across the isthmus and to protect the traffic along it. At the same time, other companies began to supplement the work of P. & O.

The improvements in mail services to India, South-East Asia and Hong Kong led to a growing clamour in the Australian and New Zealand colonies for steamship connection with Britain. The Australian colonies were 13,000 miles away by sea and the journey was slow and expensive. The postal service was casual and irregular. It was operated by private vessels which usually berthed at Sydney, from where mail to other settlements was forwarded – sometimes after long delay.

In 1843 the Admiralty commissioned Henry and Calvert Toulmin to organize a monthly mail service to Sydney. Their early voyages took four or five months and were criticized by the Australian colonists, especially in Melbourne and Hobart, who were aggrieved by the continued practice of mail going to Sydney first. The gold rushes of 1851 intensified the need for an efficient and speedy service. As a result, Parliament appointed a select committee under Lord Jocelyn to inquire into communications from England to Australia and New Zealand and China.

The debate on the advantages and disadvantages of different routes was resolved in favour of the all-water route round the Cape of Good Hope which was used by sailing vessels and migrant ships. The Australian Royal Mail Steam Navigation Company began a service along this route in 1852, but the inaugural voyage proved to be lengthy and was punctuated by unscheduled dashes to port to refuel.

Later voyages were no better. The company collapsed within a short time, and successive attempts by the General Screw Steam Shipping Company and the European and Steam Navigation Company to restore the Cape route also ended in failure. Fortunately, the dependable P. & O. had been permitted to run a steamship every other month from Singapore to King George's Sound in Western Australia, Melbourne and Sydney (and later New Zealand) – thus extending its Far Eastern mail lines. The first steamer to make this run, the *Chusan*, reached Sydney from Southampton in less than 12 weeks. It was given a rapturous welcome by the citizens of Sydney who danced to a specially composed "Chusan Waltz". By the 1860s P. & O. had control of Australian overseas mail and was sending steamers to Australia by way of Ceylon as a branch line from its main steamship service to India and China.

A POSTAL SERVICE FOR THE PEOPLE

For mid-Victorian England, the introduction of pillar-boxes marked the arrival of a modern postal service with daily collections and deliveries. The man chiefly responsible was Sir Rowland Hill, Secretary to the Postmaster-General and a veteran campaigner for the penny post, established in 1840. Until then, the heavy charge made for the receipt of letters had prevented the poor who moved in search of work inside the British Isles and overseas from communicating with family and friends left behind. Over one shilling, for example, was charged on a single letter from London to Glasgow. Postal delivery prepaid by a cheap adhesive stamp increased the volume of mail – from 76 million letters in 1838 to 642 million in 1864 – and the extra revenue obtained enabled Hill and his successors to make the Post Office a public service in Britain and the Empire.

This type of early pillar-box was first introduced to the streets of London in 1855.

Rowland Hill (above) was founder of the modern Post Office. At his suggestion, the first stamp, a "penny black" (right), was introduced in 1840. Its main feature was a portrait of the young Queen Victoria.

These scales (right) were used for weighing letters at home. From 1840 U.K. rates were a penny per half-ounce. Previously, each sheet sent was charged for separately.

The Mails Achieve Speed

Mail-coaches were introduced at the end of the 18th Century and ran on the hard, smooth roads encouraged and often financed by the Post Office. By Victorian times, the mail-coaches linked all the main towns and had achieved, according to one Post Office commissioner, "a degree of punctuality never experienced before." Horses were normally changed every ten miles, thus enabling the trimly built coaches to average eight or nine miles an hour. Four passengers could ride inside and two more up top with the coachman if they were prepared to brave the weather. An armed guard sat at the back and frequently blew his post-horn as a priority signal to other traffic.

But by the 1840s, most mail-coaches had been displaced by the railways. So departed a well-loved sight on Britain's roads. "Them was happy days," an old coachman reflected sadly, "afore reform and rails turned everything upside down and men rode as nature intended they should . . . and not by machines like bags of cotton and hardware."

The Newcastle to Edinburgh mail-coach sets out for its final run on July 5, 1847.

A postman knocks to make a delivery. From 1840 most householders fitted letter-boxes, though Lord Londonderry protested at having to "cut a slit" in his fine mahogany door.

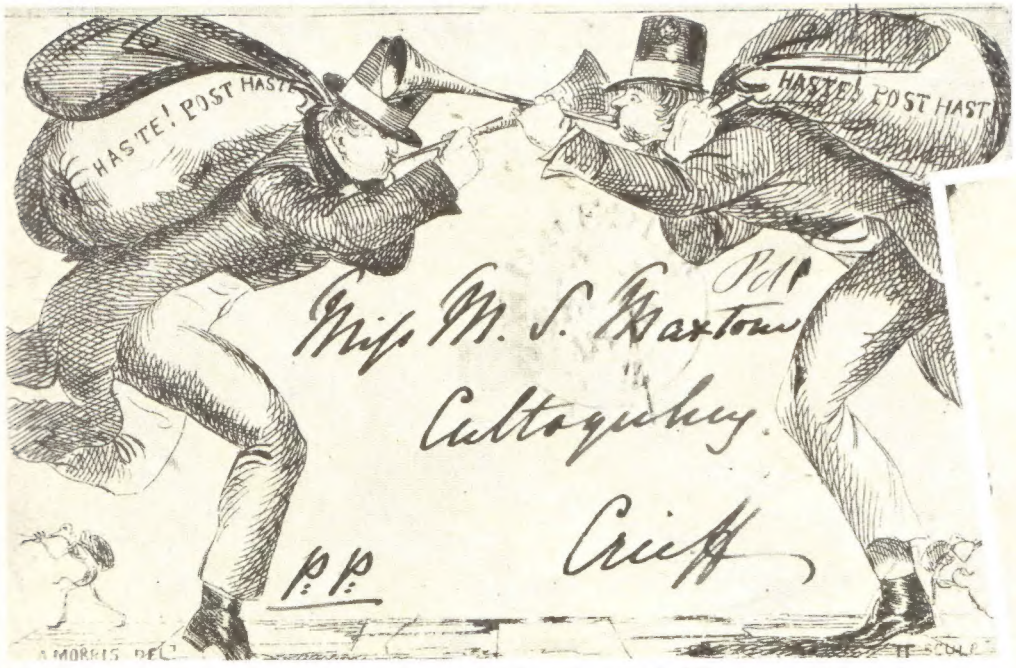
These stamp-boxes were a popular means of keeping early, unperforated stamps which had to be cut out by knife or scissors.

The Envelope Arrives

The envelope was not generally used until 1840. Until then, letters were not charged by weight but by the number of sheets sent. So anyone using an envelope had to pay double – once for the letter and once for the envelope. In the words of one angry correspondent: "Every scrap of paper is held to be a letter."

In 1840 the Post Office decided to carry any inland letter of up to half an ounce for one penny. It provided both stamped covers (paper for wrapping round letters) and stamped envelopes. These were designed by William Mulready and showed Britannia and the British lion surrounded by figures and animals representing the rest of the world. Individual stamps or "adhesive labels," which were also available, were not expected to prove as popular as they became. But the public loved the stamps and hated the envelopes. An indignant letter to *The Times* called them "a piece of buffoonery." The next official envelopes were plain and showed only the Queen's head – as on stamps – in the top right-hand corner.

The extravagant designs on stamped envelopes (above right) were soon withdrawn when satirical versions – like the one on the right – appeared. In this example, the original's staid symbols of Britain's imperial presence are turned into caricatures cocking snoots at each other across oceans spanned by a parcel-carrying lion with a Nelson eye-patch.



This mid-19th Century cover or envelope proclaims the speed of the new postal service.

This envelope is thought to have been u
for dispatching invitations to a ball at
Holyrood House, recalling the fact that
special occasions merited special cover

John Bull greets his Australian compatriot on this artistically decorated envelope. There was no objection from the Post Office so long as the necessary stamp was affixed.

Another hand-drawn cover illustrates the humour of the sender. The weight of "good wishes" contrasts ironically with the strict weight limits on foreign letters.

A "propaganda" envelope of 1849 backs the widespread demand for penny letters to the Empire. When it was introduced almost 50 years later, the imperial penny post was hailed by *The Times* as "a great stroke."

This map shows the sea and land routes used to reach India during the 19th Century.

How the Mail Got to India

Until the Suez Canal was opened in 1869, the imperial mail to India had to be transported by ship round the Cape of Good Hope or else by land and sea to Suez on the Red Sea. From there, clear passage was afforded to the Indian Ocean and the main Indian ports of Bombay, Madras and Calcutta. The long route round the Cape took sailing-ships six months or more. Even steamships, which began making the journey in 1825, took between three and four months.

The attraction of the overland route – so named because it went across Egypt from the Mediterranean to the Red Sea – were obvious. It was first attempted in 1830 by Lieutenant Thomas Waghorn, a former pilot with the East India Company, who took almost five months to complete the journey. Twenty years later, when the route was firmly established, British mail reached Bombay within six weeks. Except in time of war, the usual route from England was across France to Marseilles and thence by packet-boat to Egypt. Camels, and later a railway, carried the mail on to Suez.

From there ships of the Peninsular and Oriental Steam Navigation Company completed the final lap to India. The company's ships also carried mail to Singapore and Hong Kong, using Ceylon as a staging-point. It was profitable work: P. & O. received over £200,000 in 1854 for carrying the Indian mails

Gallery of Illustration,

14,

Regent St. Waterloo Place,

(ADJOINING THE PARTHENON CLUB,)

Open every Morning & Evening,

WITH

A GRAND MOVING

DIORAMA,

ILLUSTRATING THE

ROUTE

OF THE

OVERLAND MAIL

TO

INDIA,

On a Scale of Unequalled Magnitude,

Accompanied by DESCRIPTIVE DETAIL and APPROPRIATE MUSIC, pourtraying EVERY OBJECT worthy Notice on this highly interesting Journey from

SOUTHAMPTON TO CALCUTTA.

Morning at Half-past Two, Evening at Eight.—Doors open at Two and Half-past Seven o'Clock.

All the romance of the Indian mail run is reflected in this poster for a diorama of the route. This was shown by paintings and diagrams dramatically lit in a stage setting.

A contemporary cartoon shows how the passage of the Indian mails through France was interrupted by the Franco-Prussian War of 1870.

The Mail Service Gets Up Steam

The first use of steam packet-boats by the Post Office was between Dover and Calais in 1821. Only three years later, a steamboat, *Rob Roy*, was used for regular sea voyages which ran from Greenock in Scotland to the Northern Irish port of Belfast. Clearly, the imperial mail service was in for some drastic changes. In 1838 a steam enthusiast named James McQueen published his *General Plan for a Mail Communication by Steam Between Great Britain and the Eastern and Western Parts of the World*.

It called for "no narrow or parsimonious views on the part of this great country" in adopting steam-power to speed up the posts. The author's hopes were partially realized when, two years later, the Cunard Company's *Britannia* began a regular steam mail run to America, completing her voyage from Liverpool to Boston in 14 days. Similar services were soon provided on all the main routes. By the 1840s, steamships were carrying most overseas mail, halving the time taken for sailing voyages to India and the Americas. These early vessels were driven by two paddle-wheels placed amidships, with smoking funnels set between traditional masts and rigging.

The masts were finally dropped by shipbuilders towards the end of the century when owners acquired the confidence to rely on steam alone. In 1853 the Admiralty paid £285,000 to subsidize these privately owned mail lines. There were sound reasons behind such apparent generosity. The government wanted not only to improve communications but to control them. A further attraction was the possibility of using the mail-boats as gun-ships in time of war.

The Navy normally insisted that these ships were "sufficiently strong to carry guns of the largest calibre" and thought any extra costs were fully justified.

Native labourers in British Somaliland, on the east coast of Africa, where there was no safe harbour for the mail steamer, wade out to collect the Post Office sacks from a dinghy.

The *Shannon*, built in 1859, was part of the Royal Mail Steam Packet Company's fleet which served the West Indies with fortnightly runs from Britain under a £240,000 yearly government contract.

Education and Employment Through the Post

The colonial postal service did much more than bring efficient communications to remote parts. It also offered secure employment and contact with European culture to many of the Empire's subjects.

They learned English as part of the job and were encouraged to seek promotion to higher grades by passing exams. As representatives of the distant government in London, they were looked up to by their own people. These overseas post offices also attracted many from Britain, who generally occupied the senior positions. Young men were preferred. An advertisement for the Posts and Telegraphs Department of the Malayan Civil Service in 1935 said: "Candidates should be at least 25 years of age, preferably single and not over 32." No doubt these young expatriates were responsible for some of the outlandish methods adopted to ensure safe postal deliveries: one traveller to South Africa at the turn of the century was intrigued to learn that letters were taken across the Kalahari Desert by Mongolian camel and delivered in others areas in carts drawn by ostriches and zebras.

A Malayan postman delivers mail by bicycle in the early 1900s. Postal services were not established in the Malay States until 1890 – jungle was too much of an obstacle.

A cleft stick was used by South African mail runners to carry letters across the veld. When this service was first set up in Cape Colony in 1806, the delivery price was 6d a sheet.

A New Zealand postman (left) has a car to help him with rural deliveries. Cars were used by the Post Office there from 1903.

Mail arrives at this remote Cyprus village by mule. Before Britain took over the island from the Turks in 1878, letters were rarely delivered beyond the main towns.

This steam-powered mail-van was one of three supplied to the Ceylon Post Office in 1901. The island was served by good roads constructed for military purposes.

Stripes on this veteran Sinhalese postman's uniform indicate his seniority. As a civil servant he had to be able to speak English.

Growth of the Colonial Post

Postal services of a kind were started in the colonies almost as soon as in Britain. A law passed in Virginia in 1675 stipulated that every planter should provide a messenger to carry dispatches on to the next plantation "on pain of forfeiting a hog's head of tobacco."

The early colonial services were controlled by the British Postmaster-General, who assessed postal charges and pocketed any surplus revenue. When the colonies were more firmly established in the 19th Century, they were allowed to run their own posts. To begin with, traffic was light, as this Australian report of 1845 shows: "The mails are conveyed to and from the harbour [at Sydney] in the mail cart, if the horse is not otherwise employed or the mail too bulky." In 1840 there were only 54 post offices throughout the whole of New South Wales. Revenue was a mere £3,900. By 1898, however, 1,500 post offices had been established and these earned more than £900,000. There was an equally rapid development of services in India and Canada. Even in Africa great progress was made. A visitor in 1902 reported that the colonies were linked by "various routes to the very heart of the black continent."

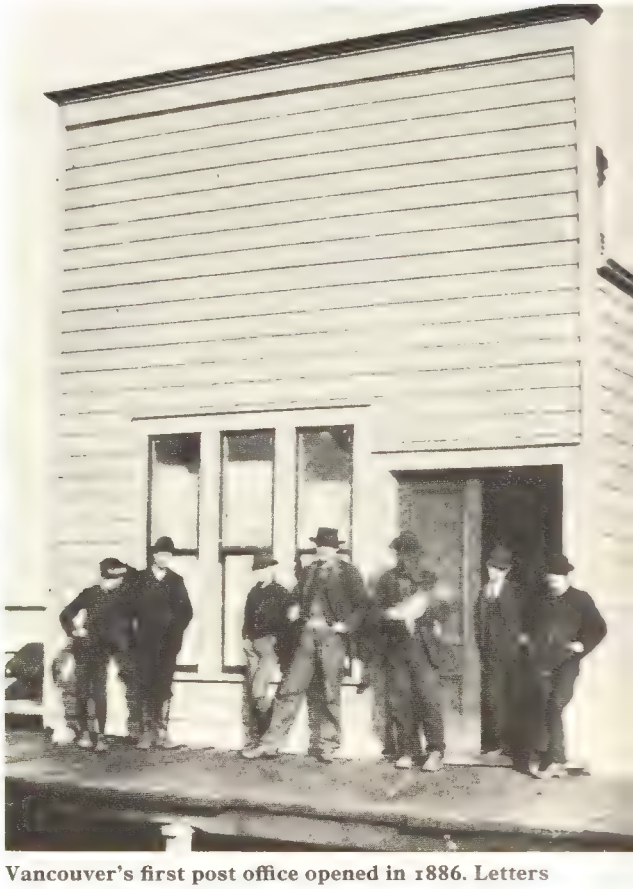
Colonial-style columns lend elegance to this post office in St. Lucia.

This wooden hut served as post office, telegraph office and telephone kiosk to the country around Piriaka, New Zealand.

Calcutta's general post office (left) served all of West Bengal. Introduced in the middle of the last century, the Indian postal system was based on a uniform letter rate equivalent to about one penny.

The imposing general post office serving the Malayan state of Kedah reflected the area's prosperity from the sale of rubber.

The post at Yelwa in Eastern Nigeria was housed in a traditional African hut.



Vancouver's first post office opened in 1886. Letters could be collected, but no deliveries were made.

III. From the Ocean Depths to the Clouds

The time and expense of the journey from Britain to India and Australia were further reduced by the opening, in 1869, of the Suez Canal, which connected the Mediterranean and the Red Sea. Though built largely by French enterprise, the canal was of particular value to the British Empire. Its usefulness as a route to India was the main reason why Disraeli purchased for Britain in 1875 the shares in the canal held by the Khedive of Egypt. British imperial mail began to be carried through the canal in 1873. Within 15 years virtually all carriers of through mail between Britain and India were using it. The Suez Canal became the Empire's most vital artery.

The success of the Suez Canal in the late 19th Century not only destroyed the overland route across the isthmus but also reduced the strategic importance of Cape Colony on the sea-route round Africa. The chief disadvantage of the canal was that it enmeshed the British government in the complex domestic and foreign affairs of Egypt. However, these improved communications did not satisfy the colonists in New Zealand, whose extreme distance from England (some 1,200 miles and two weeks further on from eastern Australia) made them especially conscious of their isolation.

In particular, they were discontented with postal services that depended on connections with vessels leaving Australian ports. The main hope for a faster service lay in the route eastward from New Zealand by way of America. In the 1850s several schemes for a service by way of Panama were advanced. The British government, however, was not enthusiastic – partly because the volume of New Zealand mail was comparatively low and did not seem to warrant the

An 1858 print celebrates the first trans-Atlantic telegraph cable. But it broke after a month and a successful cable was not laid until 1866.

increased cost of promoting another service. So New Zealand was left on its own to promote the American route but found an ally in New South Wales, which resented the pre-eminence Melbourne was acquiring in the services operating through Suez.

In 1867 New South Wales agreed to contribute half the cost of a monthly service across the Pacific provided Sydney became a western terminus for it. The Panama, New Zealand and Australia Royal Mail Company began operating in 1866, but the lack of passengers and freight led to the disbandment of the service in 1869 as uneconomic. The New Zealand government refused to be discouraged, and looked to the use of San Francisco, a terminus of the transcontinental railroad across the United States, as the most likely alternative to Panama.

After some failures, co-operation with New South Wales in 1875 produced a satisfactory mail service operated by the American Pacific Mail Line, which used Sydney and Wellington alternatively and reduced communications between New Zealand and London to six weeks or less. The expansion of steamship services increased the load on government departments in Whitehall. The staff of the Colonial Office, in particular, found themselves under continuous and growing pressure, in contrast to the somewhat fitful and more leisurely system of work they had enjoyed earlier in the century.

There was much more mail to be dealt with and, if possible, answers had to be devised to catch the next departure of mail – an occasion which assumed increasing significance in the work patterns of the various departments. There were also many more colonial politicians and representatives taking advantage of the faster services to London to carry their case in person to the British government; and they normally expected to be received and heard by the Colonial Office.

An even more dramatic change in the management of the Empire came with the introduction of cable telegraph. Samuel Finley Breese Morse, an American artist and designer, invented a system of electric telegraph in 1837. Seven years later, having devised the code that bears his name, he flashed the first telegraphic message – "What hath God wrought" – between Washington and Baltimore. By 1900 the new invention was the basis of an international network.

The first cable lines were overland and internal to each country. Links were soon established between countries. But a foreign cable was vulnerable to cutting, tapping or interruption – an obvious danger in time of war. "From an imperial point of view," reported a British committee in 1902, "and from a supreme right of self preservation, intercommunication between the scattered units which form in their aggregate the British Empire, should as far as possible be in British hands, and should not be dependent upon the friendship or the caprice of other nations." So the emphasis switched to undersea cables. These soon formed vital links throughout the Empire.

Dover and Calais were linked by submarine cable in 1851 after a line laid the previous year had been sabotaged by a French fisherman who mistook it for unusually resilient seaweed. Another line laid in 1853 connected Britain to Ireland. In 1856 John Brett, who had been thinking about the trans-Atlantic cable as early as 1845, joined the consulting engineer, Charles Bright, and the American financier, Cyrus W. Fields, to establish the Atlantic Telegraph Company. But attempts to join Ireland and Newfoundland by cable were not successful until 1866.

The main imperial communications ran eastwards. Attention was focused on the Mediterranean and the route through to India via either the Red Sea or the Persian Gulf. The Indian Mutiny of 1857 drove home the need for establishing swift and reliable communications. Early in that year the British government reached an agreement with the European and Indian Junction Telegraph Company for the connection of existing lines in Britain and the Continent through Turkish territory to the Persian Gulf and thence by submarine cable to Karachi. But the Turks were as yet unwilling to license passage through their domains.

The Red Sea and India Telegraph Association organized by two Englishmen, Lionel and Francis Gisborne, were the beneficiaries. Their company secured a formal contract from the British government in 1858 and planned to extend cable communication to the East Indies as well as India. But the scheme failed. The cable was overstretched to snapping-point and was destroyed by sharp rocks, overheating and inadequate insulation.

Where private companies had failed, the government moved in itself and eventually succeeded. The cable was improved in quality and made four times as heavy as that employed in the earlier efforts. In 1865 communication between Britain and India was opened with the completion of a land line between Baghdad and Fao, in the Persian Gulf. This was joined by submarine cable to Karachi.

The principal weakness so far as the British imperial system was concerned was that much of the line was in the hands of foreign powers. In some parts, it was at the mercy of nomadic tribesmen, who apparently regarded telegraph wire as excellent material for bridge-building and mending other equipment. The tribesmen also enjoyed testing their aim, rather in the manner of Hollywood Western sharpshooters, by taking shots at the insulators on the telegraph poles. The solution was, of course, to have all cables between Britain and India beneath the sea. Then they would be under the protective cloak of the Royal Navy and invulnerable to any designs by unfriendly powers.

In 1870 the Eastern Telegraph Company ran a cable from London to Bombay by way of Lisbon (capital of Britain's oldest and most trusted ally, Portugal), Gibraltar, Malta, and Alexandria, then overland to Suez through Egypt (occupied in 1882) and on to Aden and Bombay. This represented the first major step towards the now sought-after "all-red" route that brought every part of the Empire into contact with the metropolitan country, but was at no point dependent upon a foreign power. Branch lines were extended from the Eastern Telegraph's cable to reach Singapore, Hong Kong, Australia and New Zealand, while others were extended from Aden to Zanzibar, Mozambique and South Africa.

The idea of a trans-Pacific cable took longer to materialize. It was raised at a colonial conference in London in 1877 by Canada's foremost engineer, Sandford Fleming, the man who rationalized international timekeeping. Differences be-

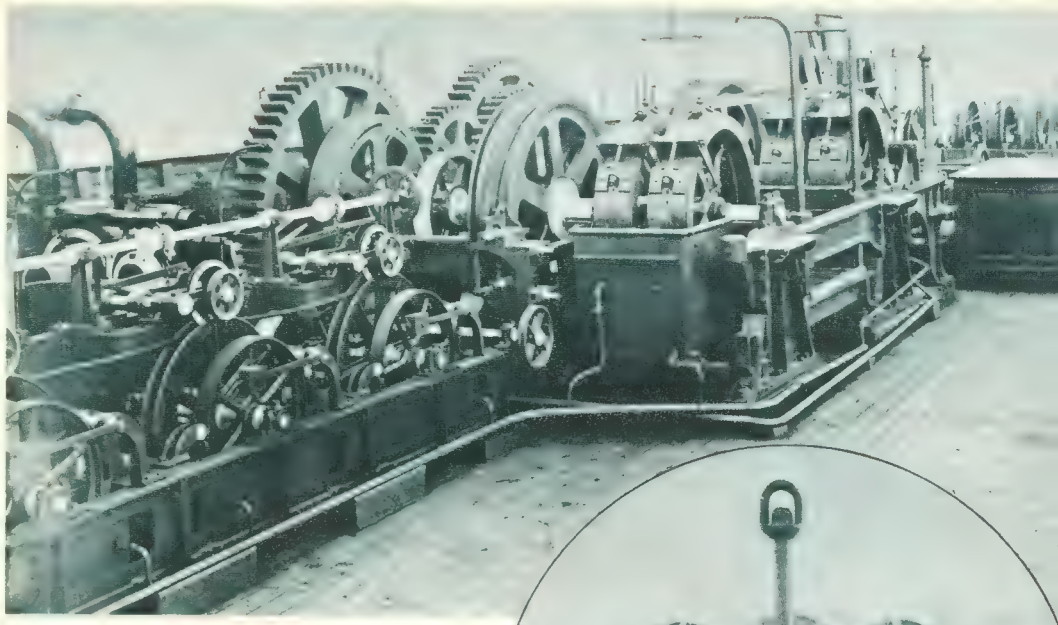
continued on p. 2206

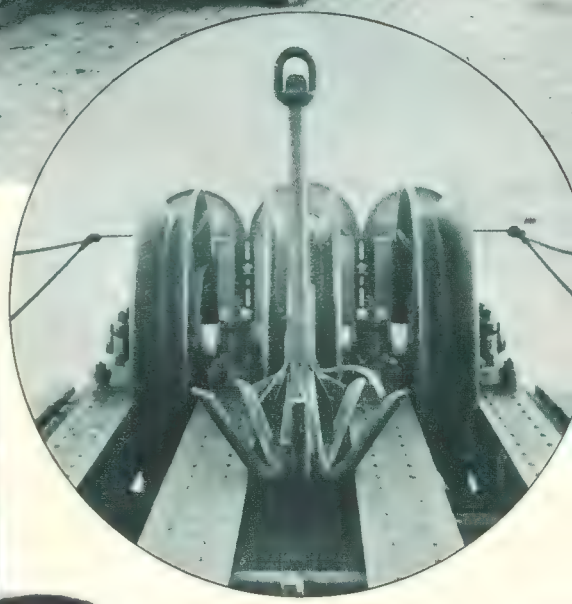
REVOLUTION BY TELEGRAPH

The electric telegraph completely revolutionized world communications because it abolished distance and delay. Invention of the modern system is ascribed to the American, Samuel Finley Breese Morse. But Britain's William Cooke and Charles Wheatstone flashed signals between Euston and Camden Town railway stations, London, in 1837, seven years before Morse first telegraphed from Baltimore to Boston.

By the 1850s a host of private companies were offering competing services in Britain at the rate of a shilling for 20 words, and by the end of the 19th Century a network of lines and cables linked Britain with all parts of the Empire. Over 51,000 nautical miles of cable had been laid at a cost of £28,000,000.

At the height of the telegraph's popularity, in 1919, the Post Office, which had taken over the private companies, was sending 82 million telegrams a year. Thereafter, its popularity declined as telephone services, first established in 1878, were gradually expanded.





The cable-laying machinery (above and right) of the mighty steamship, *Great Eastern*, was used for completion of the Bombay-Suez section of the imperial cable route between Britain and India in 1870.

A cable is landed at Fao, on the Persian Gulf, in 1865. From here it crossed the Indian Ocean, providing the final link in a telegraph system joining Europe and India.

The Prince of Wales (centre) attends the London soirée held to celebrate completion of the first direct, British-controlled cable route to India on June 8, 1870.

Even remote British Somaliland, where this line is being fixed, had a cable to London.

The pioneer cable ship, *Hibernia*, which laid the cable between Australia and New Zealand in 1876, was wrecked off the Brazilian coast the following year.

Nigerian telegraph messengers line up for duty. The capital, Lagos, was linked to the imperial cable system in September, 1886.

tween Britain, Canada, Australia and New Zealand on how the expense should be apportioned held up this project until the beginning of the 20th Century.

In 1902 messages began to be transmitted on lines from Brisbane and New Zealand which joined at Norfolk Island. They then went on through Fiji and the almost inaccessible Fanning Island, situated in the North Pacific, which was annexed by Britain in 1882, to Vancouver on the west coast of Canada. Transcontinental land lines picked up the messages there for transmission to Europe. This line possessed the important advantage of being entirely within the British Empire, distant from foreign naval bases, independent of foreign powers, and not exposed in case of war to the restrictions that neutral countries might choose to apply to the transmission of war messages by belligerents.

Telegraphic communication was extended both between and within the British Empire territories in the late 19th Century, reducing to a matter of days imperial communications which had taken weeks by the steamship services. New settlers in Canada, Australia, New Zealand and South Africa, and British residents in other colonial territories, were able to keep in close and virtually immediate touch with "home." Consequently, their sense of isolation was much reduced. They were also able to hold on more firmly to British fashions and attitudes. The exclusiveness of British society abroad – particularly in the tropical territories, where local habits were most alien – was therefore reinforced.

Telegraphic communication, however, was not without its hazards. Services were interrupted on occasion practically everywhere and messages were sometimes garbled and reached the recipient in an inaccurate, misleading or even unintelligible form. The telegraphic service in India was particularly suspect, partly because much of the system had been introduced hastily after the 1857 mutiny and with an eye to cheapness. The problem in the sub-continent was accentuated by the low literacy standards of those in charge of dispatches. Nor could the secrecy of messages be guaranteed if the telegraph clerks saw profit in passing on information to interested parties

Demonstrations of wireless telegraphy (above) roused great public interest when the new marvel appeared at the turn of the century. Unlike the cable telegraphist, the wireless operator could and – during the First World war (right) – often did, work anywhere.

other than the legitimate recipient.

At the turn of the century, British defence experts recognized the need to provide military and naval protection for the most vital links. Their concern explains the government's determination to establish "all-red" routes, notably in India, entirely independent of foreign powers. By the time the First World War broke out in 1914, the British government was confident of an effective and safe imperial communication system. Britain owned well over half of the world's telegraphic cables.

Its engineers were the best equipped and most experienced in cable technology and operation. Its cable-laying and repair services were also employed by other countries; and it possessed more communication stations around the world than any other power. This independence and superiority made possible the sabotage of an enemy's cables in time of war without any adverse effect on British communications. Those listed for cutting in this eventuality were France's lines to North and West Africa and the West Indies, Italy's lines to Turkey and Sardinia, and Germany's lines between the Canaries and Monrovia, West Africa. Many other lines were dependent on British cables and could therefore be isolated without difficulty.

Furthermore, stated a special interdepartmental report on telegraphic communication in 1891, "the preponderating naval power, which we may safely anticipate in most parts of the world, will make it possible for us to occupy foreign places, and utilize their cable communications, which will, as a rule, be more advantageous than destroying buildings and apparatus, and damaging cable ends at landing-places."

By 1914, writes Professor Howard Robinson in his account of *Carrying British Mails Overseas*, "British cables girdled the earth. This world-wide system added greatly to the value of the surface mail communications and became even more valuable when the surface routes were hindered or closed by the world war that began in 1914." To a significant degree, the international communications network emanated from, and revolved around, London. British capital had provided most of the finance, and British

companies had done most of the planning and building.

The United States and the major countries of continental Europe were conscious of this British predominance and disliked it. But despite their attempts to expand their own cable network, none could avoid dependence at some point on British cables. In effect, Britain controlled the world communications system.

Use of the new methods affected all departments of government – not least the Colonial Office. In the 1870s it was not unusual for the Secretary of State and his under-secretaries to have their sleep interrupted by the arrival of telegrams which, on decoding, proved to be of no particular urgency and could have been left until morning. Lord Carnarvon, Colonial Secretary in Disraeli's administration, overcame this problem by appointing two resident clerks at the Colonial Office to deal with incoming cables at night. These positions, which were included in the permanent staff, were much sought after at first. Later, there was difficulty in obtaining candidates prepared to work regularly at night, so the Colonial Office set up a rota system to handle this aspect of the work.

To obtain the maximum advantage of the telegraph, incoming cables *should* have been dealt with on the same days as they arrived. In fact, most cables for the Colonial Office came by messenger from the telegraph companies in the City of London, often at night. They were then decoded, sometimes with considerable difficulty, and handled afterwards very much like ordinary mail.

Consequently, while messages from overseas might reach London very quickly, they tended to proceed through the Colonial Office machinery at the traditional pace of all other communications. In some respects, this procedure was justified; for the sense of urgency associated with telegrams was not always warranted. Moreover, dealing with a communication at a speed for which the Colonial Office was not properly geared could have meant a decision was reached and an answer dispatched without adequate reference to the relevant files.

The telegraph was not the dominant method of communication until the 20th Century. The Colonial Office and its officials overseas used it from the start. But mail carried by the steamships remained for long the principal means of communication. Even when cabled messages were sent, confirmation and amplification normally followed by post. The telegraph, therefore, had less impact on the control of events in the Empire than might have been supposed. Use of the telegraph, for example, did not prevent Dr. Jameson making his disastrous raid into the Transvaal in 1895.

At that time, the communications revolution was only just beginning. The telephone was being developed, though as yet it was confined largely to internal use on land. More importantly, direct communication without the paraphernalia of wires or cables was now in the offing. In 1895 the Italian, Guglielmo Marconi, invented wireless telegraph and the following year came to England. He sent wireless messages across the English Channel in 1899 and in 1901 sent messages 3,000 miles across the Atlantic to Newfoundland. The possibilities of wireless telegraphy were noticed by others as well as Britain. Germany established wireless communication with its African colonies and hoped that its use might help rectify the imbalance with Britain in the possession of cables.

A telephone line is rigged up in a sector of the Western Front in 1916. Wires were often hit by shellfire, but mass attacks depended on the telephone for co-ordination.

Front-line telephone lines are tested. These vital communication links had to be preserved at all costs – and engineers often provided targets for enemy marksmen.

Britain, for its part, evolved the concept of an imperial wireless chain linking Britain, Cyprus, Aden, Bombay, the Straits Settlements and Australia as a supplement to cable communications. The Imperial Conference of 1911 supported the recommendation for the establishment of a chain of state-owned wireless stations within the Empire. However, the outbreak of the First World War postponed progress until the 1920s.

Wireless telegraphy and the development of the radio added a new dimension to imperial communications. Britain again operated as the central point of the developing system and the British Broadcasting Corporation played a notable part in the establishment of broadcasting services in the dominions and colonies. In 1932 the B.B.C. launched the Empire broadcasting service and produced the first of its Christmas Day broadcasts. These were immensely popular and helped to foster an intimate sense of family throughout the territories of the Empire.

The wireless and telephone were supplemented by further improvements in the transportation of written mail. The development of flying machines in the early part of the century revealed another and yet faster method of carrying mail. As early as 1919 the secretary of the British Post Office envisaged air mail as "a valuable adjunct to the ordinary mail service for urgent communication."

Initial cross-Channel services between London and the Continent were expensive and not well patronized. Nevertheless, in 1924 Imperial Airways was organized with the aim of extending services into the Empire as well as to Europe. The Air Ministry in London prepared a memorandum for the Imperial Conference of 1926 on the "Approach towards a System of Imperial Air Communications." The ultimate objective, it declared was "to bring the most distant parts of the Empire within a fortnight's journey of London."

In that year Egypt and India were connected by air-mail services which, by 1933, had been extended to Singapore. From there the Australian company, Queensland and Northern Territory Aerial Services (later Q.A.N.T.A.S.), carried them on to Australia. In 1937 an Empire air-mail scheme was inaugurated, and when war broke out in 1939 the Empire and Commonwealth was linked by mail services which took days instead of weeks.

The improvement of communications in the 20th Century had a different impact on the Empire than the improvements of the 19th Century. In the days of sail and steam alone, the acceleration in mail services tended to strengthen the control exercised by the Colonial Office in London. An Empire which was beginning to appear ungovernable was thus brought more closely under British supervision.

The extension of British shipping routes and later the laying of a cable network made Britain, in a real sense, the "nerve-centre" of the world. However, in the 20th Century, although communications improved still further, the increasing pace of colonial independence changed the character of the Empire. As a result, the improved communications network became less an agent of Britain's dominance than the basis for a system of consultation and co-operation. Through this, the dominions sought to enhance their influence in the mother-country and their status in the world. The story of imperial communications – from sailing-vessel and steamship through cables and wireless telegraphy to air mail – mirrors the evolution of the British Empire into the modern Commonwealth.

An operator works at the switchboard of the Purley National Telephone Co. Exchange in 1910. Britain's telephone service was started by private companies and acquired by the Post Office on December 31, 1911.

BY AIR MAIL

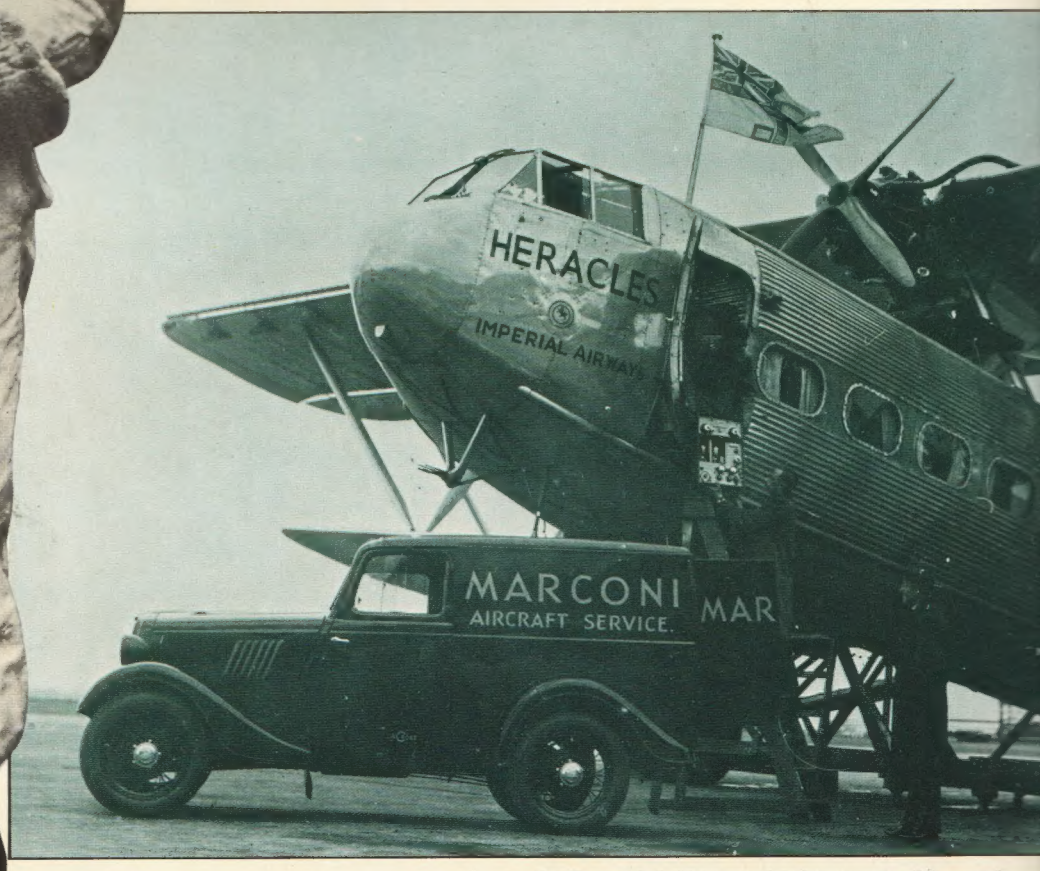
Air mail began in Britain as early as 1911. A service was run between Hendon and Windsor at the time of George V's coronation in June and the few letters which were carried bore the proud postmark, "First United Kingdom Aerial Post." Further developments were interrupted by the First World War, but in 1919 regular flights were inaugurated from London to Paris. Extension of the air services was slow because early planes needed to make frequent stops and were unable to fly by night. The first long-distance route was opened up by the Royal Air Force between Baghdad and Cairo, a distance of 850 miles. During the 1930s improvement in aircraft design and the pioneering work of the government-sponsored Imperial Airways led to vast increases in air mail. Routes to India, the Far East and North America were established and postal rates fell until by 1938 air mail was being flown everywhere at the ordinary rate.

The Supermarine Sea Eagle flying boat (above) was in service with Imperial Airways until 1929. It cruised at a leisurely 84 m.p.h. and carried six passengers.

This air-mail letter sent from India to London in 1929 would have taken eight days to arrive. When the service opened that year, the postage on a half-ounce letter was 6d.

Stone Age natives of New Guinea look on as the white man's "iron bird" collects a cargo of colonial mail at Port Moresby airstrip, Papua.

These intrepid aviators have just landed at London's Croydon airport with a sack of Australian mail. Their trial flight in 1931 was quickly followed by a permanent service.



An Imperial Airways biplane and a Marconi service van symbolize the twin forces which had reduced time and distance between Britain and the Empire by the late 1930s.

The first in a new range of Imperial Airways flying boats rests on the Thames at Westminster in August, 1928. The machine went on show for three days, giving M.P.s a chance to inspect an important link in the Empire's air services.

Royal Artillery, 1840